

AMENDMENTS TO THE CLAIMS:

This listing of Claims will replace all prior versions, and listings, of Claims in the Application:

Listing of Claims.

135 - 178: CANCELLED

179 (NEW): A compound represented by the nominal formula $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$, wherein $0 < y < 1$.

180 (NEW): The compound of Claim 179, wherein $0 < y < 0.5$.

181 (NEW): The compound of Claim 180, wherein $0 < y \leq 0.2$.

182 (NEW): The compound of Claim 181, wherein $0 < y \leq 0.1$.

183 (NEW): The compound of Claim 179, wherein the compound has an olivine structure.

184 (NEW): The compound of Claim 179, wherein the compound is a single phase compound.

185 (NEW): The compound of Claim 179, wherein $y = 0.2$.

186 (NEW): The compound of Claim 179, wherein $y = 0.1$.

187 (NEW): An electrode, comprising an active material represented by the nominal formula $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$, wherein $0 < y < 1$.

188 (NEW): The electrode of Claim 187, wherein $0 < y < 0.5$.

189 (NEW): The electrode of Claim 188, wherein $0 < y \leq 0.2$.

190 (NEW): The electrode of Claim 189, wherein $0 < y \leq 0.1$.

191 (NEW): The electrode of Claim 187, wherein the active material has an olivine structure.

192 (NEW): The electrode of Claim 187, wherein the active material is a single phase compound.

193 (NEW): The electrode of Claim 187, wherein $y = 0.2$.

194 (NEW): The electrode of Claim 187, wherein $y = 0.1$.

195 (NEW): The electrode of Claim 187, further comprising an electrically conductive diluent, and a binder.

196 (NEW): The electrode of Claim 195, wherein the electrically conductive diluent is carbon.

197 (NEW): The electrode of Claim 196, wherein the electrically conductive diluent is carbon black.

198 (NEW): The electrode of Claim 197, wherein the electrode comprises from 5 to 30% by weight carbon black.

199 (NEW): The electrode of Claim 195, wherein the binder is a copolymer of polyvinylidene difluoride (PVdF) and hexafluoropropylene (HFP).

200 (NEW): The electrode of Claim 195, wherein the electrode comprises from 3 to 20% by weight binder.

201 (NEW): A battery, comprising:

a first electrode comprising an active material represented by the nominal formula $\text{LiFe}_{1-y}\text{Mg}_y\text{PO}_4$, wherein $0 < y < 1$;
a second electrode which is a counter-electrode to the first electrode; and
an electrolyte.

202 (NEW): The battery of Claim 201, wherein $0 < y < 0.5$.

203 (NEW): The battery of Claim 202, wherein $0 < y \leq 0.2$.

204 (NEW): The battery of Claim 203, wherein $0 < y \leq 0.1$.

205 (NEW): The battery of Claim 201, wherein the active material has an olivine structure.

206 (NEW): The battery of Claim 201, wherein the active material is a single phase compound.

207 (NEW): The battery of Claim 201, wherein $y = 0.2$.

208 (NEW): The battery of Claim 201, wherein $y = 0.1$.

209 (NEW): The battery of Claim 201, wherein the first electrode further comprises an electrically conductive diluent, and a binder.

210 (NEW): The battery of Claim 209, wherein the electrically conductive diluent is carbon.

211 (NEW): The battery of Claim 210, wherein the electrically conductive diluent is carbon black.

212 (NEW): The battery of Claim 211, wherein the first electrode comprises from 5 to 30% by weight carbon black.

213 (NEW): The battery of Claim 209, wherein the binder is a copolymer of polyvinylidene difluoride (PVdF) and hexafluoropropylene (HFP).

214 (NEW): The battery of Claim 209, wherein the first electrode comprises from 3 to 20% by weight binder.

215 (NEW): The battery of Claim 201, wherein the second electrode comprises an insertion active material.

216 (NEW): The battery of Claim 215, wherein the insertion active material is selected from the group consisting of a metal oxide, metal chalcogenide, carbon, graphite, and mixtures thereof.

217 (NEW): The battery of Claim 215, wherein the insertion active material is graphite.

218 (NEW): The battery of Claim 215, wherein the first and second electrodes each further comprise an electrically conductive diluent, and a binder.

219 (NEW): The battery of Claim 218, wherein the electrically conductive diluent is carbon.

220 (NEW): The battery of Claim 219, wherein the electrically conductive diluent is carbon black.

221 (NEW): The battery of Claim 220, wherein the first and second electrode each comprise from 5 to 30% by weight carbon black.

222 (NEW): The battery of Claim 218, wherein the binder is a copolymer of polyvinylidene difluoride (PVdF) and hexafluoropropylene (HFP).

223 (NEW): The battery of Claim 218, wherein the first and second electrode each comprise from 3 to 20% by weight binder.

224 (NEW): The battery of Claim 201, wherein the electrolyte comprises a lithium salt and a solvent selected from the group consisting of dimethyl carbonate (DMC), diethylcarbonate (DEC), dipropylcarbonate (DPC), ethylmethylcarbonate (EMC), ethylene carbonate (EC), propylene carbonate (PC), butylene carbonate, lactones, esters, glymes, sulfoxides, sulfolanes, and mixtures thereof.

225 (NEW): The battery of Claim 224, wherein the electrolyte comprises a solvent selected from the group consisting of EC/DMC, EC/DEC, EC/DPC and EC/EMC.

226 (NEW): The battery of Claim 224, wherein the electrolyte comprises from 5% to 65% by weight lithium salt.

227 (NEW): The battery of Claim 226, wherein the electrolyte comprises from 8% to 35% by weight lithium salt.